Remarks/Arguments:

Applicant wishes to thank the Examiner for his detailed comments. As Examiner has grouped his actions by sections, Applicant will respond to these sections one by one.

Claim Objections

Examiner has stated:

"1. Claims 1, 12, 14-16, and 21 are objected to because of the following informalities:

- claim 1, "a manufactured unit" (line 8) should be -- the manufactured unit--.

- claims 12 and 21, "calFRate" (line 2) is not defined.

- claims 14 and 16, "HDD" is not defined.

- claims 15 and 16, "said FOM" lacks antecedent basis."

In the claims as currently amended, claim 1 has been amended to read "the manufactured unit" as required.

As for claims 12 and 21, the term "calFRate" (line 2) is discussed on page 11, lines 6-8 of the specification as below-

> "The actual sensitivity curve for the projFRate FOM is then smoothed and adjusted so that the scales on both axes correlate better. This produces the Calculated Failure Rate or calFRate curve **28** which is shown in Fig. 4."

The calFRate is thus another type figure of merit in which the Figure of Merit (FOM) is adjusted to correlate more closely with scale axes. This corresponds with the language of claims 12 and 21 in which the "Figure of Merit value is adjusted to produce a calFRate value which is then used to sort units".

Therefore, Applicant respectfully asserts that the term "calFRate" is defined with reference to the specification, and correction is not required.

As amended, in claims 14 and 16, "HDD" has been replaced with "hard disk drive".

As amended, in claims 15 and 16, "said FOM" has been replaced with "Figure of Merit".

Applicant thus respectfully asserts that the appropriate corrections have been made, or in the case of the term "calFRate", the term is defined adequately with reference to the specification, and thus does not require correction.

Applicant thus respectfully requests that the objections be withdrawn and claims 1, 12, 14-16, and 21 be allowed.

Claim Rejections –35USC § 102(b):

2. Examiner has stated that:

"Claims 1-7, 11, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by *Gollomp* (US 4,766,595).

"Regarding claim 1, *Gollomp* discloses a method (Fig. 1) for improving yields in manufacturing processes, comprising:

"- identifying parameters …;

"- collecting data …;

"- creating a reference scale …;

"- testing a manufactured unit…;

"- comparing performance data…;

"- calculating a Figure of Merit value concerning multiple performance parameters from said probabilities of failure for each of said single performance parameters …. "

"- utilizing said Figure of Merit value to sort units ….."

Applicant respectfully asserts that there are a number of errors in these statements. The thrust of *Gollomp*, and its motivation, is that it "traces the effect of a failure and calculates the probability that the failure effect causes a system performance degradation." (col. 4, lines 2-4). It does this by using a failure mode and effects analysis (FMEA) module.

"The FMEA procedure is basically a single failure at a time analysis. That is to say, each failure, as its effects are individually analyzed is considered to be the only failure in the system at that time." (col. 3, lines 40-47).

Further, *Gollomp* states:

"There are a number of ways that failure effects may be ordered. A manual approach assigns a figure of merit, for example, from 1 to 10, for each failure. The figure of merit weights how seriously the failure degrades UUT performance. A statistical, piece-part approach finds a failure rate for each UUT component and evaluates each component failure based on its failure rate. The fault-tracing heretofore mentioned statistically traces the effect of a failure and calculates the probability that the failure effect causes system performance degradation.

> "Thus, the fault-trace approach provides a statistical criticality table that orders the effects of critical components in terms of probability of occurence. A statistical criticality table provides the following information: (1) given a component failure, UUT output failures are determined; and (2) given a UUT output failure, a component or components most likely to have caused the failure are determined." (col.3, line 62- col. 4, line 13).

Thus, *Gollomp* uses component failure data to determine if the assembly will fail, or if an assembly fails, the components which caused the failure can be identified. This is a relatively simple analysis and may result in rejection of many components without taking into account their likelihood of performance based on a complex interaction of more subtle parameters.

In contrast, the present invention looks at multiple performance parameters involved with a unit, most of which are subtle enough that they may not provoke a failure by themselves, and calculates the acceptability of each unit based on the interactive qualities of these parameters. The units are then sorted based on the overall Figure of Merit (FOM) assigned to each of these units.

As mentioned above, this is a much more sophisticated methodology than simply determining if assembly failure will occur, or if failure does occur, which component is at fault, as in *Gollomp.* Among other things, the present invention allows the construction of assemblies from components whose marginal performance characteristics may compensate for each other, thus allowing completion of successful assemblies (those having low probability of failure) from components which might otherwise be discarded out of hand, and thus wasted.

As pointed out in the specification of the present invention:

> "It is expected that components outside of a certain range will be unacceptable on either end of the range.." (spec. page 9, lines 10-11)

These "out of range" components would be discarded both under the present invention and the far simpler system of *Gollomp.* However the present invention takes the analysis several steps further:

> "In the current manufacturing process, there may be 28 or more such parameters to take into account. It can easily be seen that if each component is assigned a pass-fail judgment based on these parameters considered independently, many components will fail needlessly and yields will be lower than necessary.
>
> "The present invention presents a method for considering and assigning values to multiple parameters and considering them in combination to produce improved yields and improved quality of components." (spec. page 8, lines 7-13)

Thus, returning to the language of the present claims, at a minimum, the elements found in lines 13-16 of claim 1 below are not found or fairly suggested in the cited *Gollomp* reference:

> "F) calculating a Figure of Merit value concerning multiple performance parameters from said probabilities of failure for each of said single performance parameters; and
>
> G) utilizing said Figure of Merit value to sort units."

The *Gollomp* reference does not include calculating a Figure of Merit value concerning multiple performance parameters from the probabilities of failure for each of said single performance parameters and does not use this Figure of Merit value to sort units.

Consequently, the cited reference cannot be fairly said to anticipate the present invention.

Since independent claim 1 includes these features not found in the cited reference, and since dependent claims 2-7, 11, and 12 all inherit this assertedly novel feature, Applicant respectfully asserts that the claims are not anticipated by the cited reference. Applicant therefore respectfully requests that the rejection be withdrawn and claims 1-7, 11, and 12 be allowed.

Conclusion:

Applicant has endeavored to put this case into complete condition for allowance. It is thought that the objections and §102 rejections have been corrected by amendment or were unfounded on the references cited. Applicant therefore respectfully asks that the rejections be withdrawn and that allowance of all claims presently in the case now be granted.

If the Examiner would like to discuss any of the points involved in the Response, he is urged to contact Applicant's Agent at the numbers included below.

Respectfully Submitted,

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